In the Claims:

1. (Currently amended) A method of stimulating an immune response to an antigen in an individual by a heterologous prime-boost immunisation protocol, the method comprising the steps of:

i) administering to the individual a priming composition encoding or containing said antigen to prime said immune response;

ii) administering to the individual a boosting composition encoding or containing said antigen to boost the primed immune response,

wherein one of said priming or boosting compositions comprises an infectious, replication-deficient lentivirus engineered to comprise exogenous nucleic acid encoding said antigen, or an antigen presenting cell transduced in vitro with a lentiviral vector engineered to comprise exogenous nucleic acid encoding said antigen.

2. (Original) A method according to claim 1 wherein the other of said priming or boosting compositions comprises one or more of:

i) a nucleic acid encoding said antigen;

ii) one or a plurality of peptides, each peptide comprising an epitope, wherein one of said epitopes is said antigen;

iii) a viral vector comprising nucleic acid encoding said antigen;

iv) antigen presenting cells transduced in vitro to express said antigen;

v) a vector, preferably a viral vector, having nucleic acid encoding a plurality of peptides, each peptide comprising an epitope wherein one of said epitopes is said antigen.

3. (Withdrawn) A method according to claim 2 wherein the viral vector of iii) is a pox virus having a modified genome

encoding said antigen.

4. (Withdrawn) A method according to claim 2 wherein the viral vector of (iii) is a lentiviral vector engineered to comprise nucleic acid encoding said antigen and wherein the envelope of the lentivirus of one of the boosting or priming compositions is immunogenically different to the other.

5. (Withdrawn) A method according to claim 1 wherein the priming composition comprises a lentiviral vector engineered to comprise nucleic acid encoding said antigen, and the boosting composition comprises a pox virus having a modified genome encoding said antigen.

6. (Withdrawn) A method according to claim 3 wherein the pox virus is a vaccinia virus.

7. (Original) A method according to claim 2 wherein the nucleic acid of i) is a plasmid or other expression vector.

8. (Withdrawn) A method according to claim 2 wherein the antigen presenting cells of iv) are dendritic cells transduced in vitro by a lentivirus engineered to comprise nucleic acid encoding said antigen.

9. (Withdrawn) A method according to claim 1 wherein the priming composition comprises a lentiviral vector engineered to comprise nucleic acid encoding said antigen, and the boosting composition comprises an immunologically different lentiviral vector engineered to comprise nucleic acid encoding said antigen.

10. (Previously presented) A method according to claim 1 wherein the priming composition comprises a nucleic acid encoding said antigen, and the boosting composition comprises a lentiviral vector engineered to comprise exogenous nucleic

acid encoding said antigen.

11. (Withdrawn) A method according to claim 1 wherein the priming composition comprises a pox virus having a modified genome encoding said antigen, and the boosting composition comprises a lentiviral vector engineered to comprise nucleic acid encoding said antigen.

12. (Withdrawn) A method according to claim 1 wherein the priming composition comprises antigen presenting cells transduced in vitro with a lentiviral vector engineered to comprise nucleic acid encoding said antigen, such that the cells express said antigen, and the boosting composition comprises a pox virus having a modified genome encoding said antigen.

13. (Currently amended) A method of boosting a pre-existing immune response to an antigen in an individual, the method comprising the step of administering to the individual infectious, replication-deficient lentivirus particles engineered to comprise exogenous nucleic acid encoding said antigen, said individual having been previously exposed to said antigen but not having previously been exposed to said lentivirus particles.

14. (Original) A method according to claim 13 wherein the individual has previously been exposed to said antigen by administration of nucleic acid encoding the antigen.

15. (Withdrawn) A method according to claim 14 wherein the nucleic acid is a plasmid or other expression vector.

16. (Withdrawn) A method according to claim 13 wherein the individual has previously been exposed to the antigen by administration of a pox virus having a genome modified to encode the antigen.

17. (Withdrawn) A method according to claim 13 wherein the individual has previously been exposed to said antigen by administration of a lentivirus engineered to comprise nucleic acid encoding said antigen, wherein the envelopes of the two lentiviruses are immunologically different to one another.

18. (Withdrawn) A method according to claim 13 wherein the individual has previously been exposed to the antigen by infection with a pathogen or development of a cancer.

19. (Withdrawn) A kit for stimulation of an immune response against an antigen by a heterologous prime-boost immunisation protocol, the kit comprising (i) a first pharmaceutical composition, encoding or containing said antigen, to prime an immune response against said antigen; and
ii) a second pharmaceutical composition, encoding or containing said antigen, to boost the immune response against said antigen;
wherein at least one of said priming or boosting compositions comprises lentivirus engineered to comprise nucleic acid encoding said antigen, or an antigen presenting cell transduced in vitro with a lentiviral vector engineered to comprise nucleic acid encoding said antigen such that the cell expresses the antigen.

20. (Withdrawn) A kit according to claim 19 wherein the other of the priming or boosting compositions comprises one or more of:
i) a nucleic acid encoding said antigen;
ii) one or a plurality of peptides, each peptide comprising an epitope, wherein one of said epitopes is said antigen;
iii) a viral vector comprising nucleic acid encoding said antigen;
iv) antigen presenting cells, e.g. DC, transduced in vitro to express said antigen;

v) a vector, preferably a viral vector, having nucleic acid encoding a plurality of peptides, each peptide comprising an epitope wherein one of said epitopes is said antigen.

21. (Withdrawn) A kit according to claim 20 wherein the viral vector of iii) is a pox virus having a modified genome encoding said antigen.

22. (Withdrawn) A kit according to claim 20 wherein the viral vector of (iii) is a lentiviral vector engineered to comprise nucleic acid encoding said antigen and wherein the envelope of the lentivirus of one of the boosting or priming compositions is immunogenically different to the other.

23. (Withdrawn) A kit according to claim 20 wherein the priming composition comprises a lentiviral vector engineered to comprise nucleic acid encoding said antigen, and the boosting composition comprises a pox virus having a modified genome encoding said antigen

24. (Withdrawn) A kit according to claim 21 wherein the pox virus is a vaccinia virus.

25. (Withdrawn) A kit according to claim 20 wherein the nucleic acid of i) is a plasmid or other expression vector.

26. (Withdrawn) A kit according to claim 20 wherein the antigen presenting cells of iv) are dendritic cells transduced in vitro by a lentivirus engineered to comprise nucleic acid encoding said antigen.

27. (Withdrawn) A kit according to claim 20 wherein the priming composition comprises a lentiviral vector engineered to comprise nucleic acid encoding said antigen, and the boosting composition comprises an immunologically different lentiviral vector engineered to comprise nucleic acid encoding

said antigen.

28. (Withdrawn) A kit according to claim 20 wherein the priming composition comprises a nucleic acid encoding said antigen, and the boosting composition comprises a lentiviral vector engineered to comprise nucleic acid encoding said antigen.

29. (Withdrawn) A kit according to claim 20 wherein the priming composition comprises a pox virus having a modified genome encoding said antigen, and the boosting composition comprises a lentiviral vector engineered to comprise nucleic acid encoding said antigen.

30. (Withdrawn) A kit according to claim 20 wherein the priming composition comprises antigen presenting cells transduced in vitro with a lentiviral vector engineered to comprise nucleic acid encoding said antigen, such that the cells express said antigen, and the boosting composition comprises a pox virus having a modified genome encoding said antigen.

31-37 (Cancelled)

38. (Withdrawn) A method according to claim 1 wherein said antigen is a tumour associated antigen.

39. (Previously presented) A method according to claim 1 wherein said antigen is a pathogen-derived antigen.

40. (Previously presented) A method according to claim 39 wherein said pathogen-derived antigen in a viral antigen.

41. (Previously presented) A method according to claim 40 wherein said viral antigen is a lentiviral antigen.

42. (Withdrawn) A method according to claim 13 wherein said antigen is a tumour associated antigen.

43. (Previously presented) A method according to claim 13 wherein said antigen is a pathogen-derived antigen.

44. (Previously presented) A method according to claim 43 wherein said pathogen-derived antigen in a viral antigen.

45. (Previously presented) A method according to claim 44 wherein said viral antigen is a lentiviral antigen engineered into said vector.